

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-21 (Cancel)

22. (New) Pressure measurement device provided with a pressure sensor adapted to perform pressure measurements in the left ventricle of a heart, the pressure sensor is connected to a measurement unit to receive pressure measurement values obtained from said sensor, and a processing means adapted to determine, during a number of measurement periods, each including a number of heart cycles, a set of pressure values, and also a set of first order time derivative values determined from the set of pressure values, characterized in that said processing means also is adapted to calculate the maximum values of the set of first order time derivative values for each of the heart cycles during one measurement period, and to calculate a predefined parameter being the average or median value of the maximum values, wherein the pressure measurements are adapted to be performed during measurement periods related to different predetermined medical implant settings in a medical implant controlling the application of stimulation pulses at least in the left and right ventricles of the heart, and that an optimal implant device setting is identified as the setting where the predefined parameter is maximal.

23. (New) Pressure measurement device according to claim 22, characterized in that said device includes a display means for displaying, preferably in real-time, during a measurement period, curves representing the set of pressure values and the set of determined first order time derivative values.

24. (New) Pressure measurement device according to claim 22, characterized in that said device comprises a pressure measurement guidewire at which said pressure sensor is arranged.

25. (New) Pressure measurement device according to claim 22, characterized in that the pressure measurement device is arranged in said medical implant being a heart stimulating device, e.g. a pacemaker, cardioverter or defibrillator, and that said pressure sensor is arranged at a heart electrode lead connected to said heart stimulating device.

26. (New) Pressure measurement device according to claim 22, characterized in that said value of the predefined parameter is added to a measurement session list of measurement periods.

27. (New) Pressure measurement device according to claim 22, characterized in that the pressure measurement is repeated for other predefined implant device settings.

28. (New) Pressure measurement device according to claim 22, characterized in that the implant device setting is adapted to be varied during a measurement session according to a predefined search pattern.

29. (New) Pressure measurement device according to claim 23, characterized in that values of the predefined parameter are displayed in a three dimensional illustration.

30. (New) Method for monitoring, determining by measurement and calculation and graphically displaying physiological variables related to blood pressure, comprising at least following steps:

- a) detecting continuously during a measurement period left ventricular pressure of a heart ( $P_{LV}$ ), derived from a guidewire-mounted pressure sensor;
- b) transducing said pressure to a processable signal and delivering said processable signal to a processing means being able to process said processable signal;
- c) receiving said processable signal;

- d) calculating the first order time derivative ( $dP_{LV}/dt$ ) of said left ventricular pressure by processing said signal;
- e) forming and displaying a set of values representing the pressure ( $P_{LV}$ ) and the first order time derivative of said pressure ( $dP_{LV}/dt$ );
- f) calculating the value of a predefined parameter of said set of first order time derivative values during the measurement period, the predefined parameter is the average or median value of the maximum values of the set of first order time derivative values for each of the heart cycles during one measurement period, wherein the pressure measurements are performed during measurement periods using predetermined medical implant settings in a medical implant (20) controlling the application of stimulation pulses at least in the left and right ventricles of the heart, and that the implant setting includes a first time difference  $\Delta 1$  being the time between stimulations in the left and right ventricles, and
- g) displaying said calculated value in a measurement session list that may include calculated values from other measurement periods.

31. (New) Method according to claim 30, characterized in that in step f) only parts of the set of first order time derivative values that fulfil certain calculation criteria are included in calculating the value of the predefined parameter, wherein this results in that artefacts and disturbances are suppressed.

32. (New) Method according to claim 30, characterized in that the method further comprises the step of choosing the implant setting from the measurement session list that fulfils an optimal implant setting criterion.

33. (New) Method according to claim 32, characterized in that said optimal implant setting criterion is to choose the maximum amplitude of the average values.

34. (New) Method according to claim 30, characterized in that the implant setting further includes a second time difference  $\Delta 2$  being the time between stimulations in the right atrium and the right or left ventricle.

35. (New) Method according to claim 30, characterized in that the implant device setting is varied according to a predefined search pattern.

36. (New) Method according to claim 30, characterized in that a measurement period is less than 30 seconds and preferably 10 seconds.

37. (New) Method according to claim 30, characterized in that a measurement session list that may include calculated values from measurement periods obtained during a measurement session of less than 60 minutes and preferably less than 30 minutes.

38. (New) A computer program directly loadable into the internal memory storage of a processing means within a control unit, comprising the software code means for performing the steps of claim 30.

39. (New) A computer program that can be stored on a computer usable medium, comprising readable program for causing a processing means in a control unit to control an execution of the steps of claim 30.